

No. 669,059.

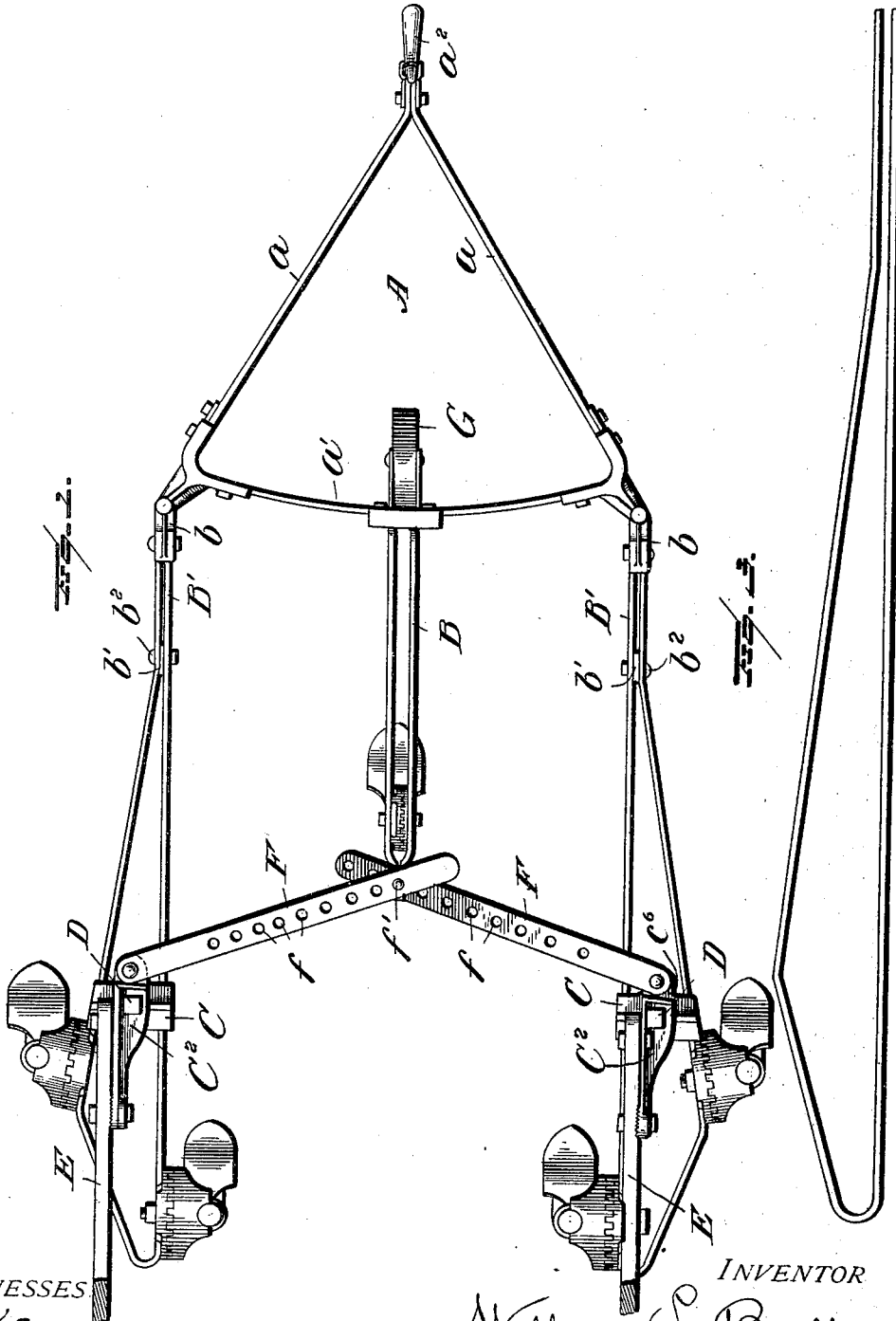
Patented Feb. 26, 1901.

W. L. BEALL.
CULTIVATOR.

(Application filed Nov. 30, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

J. K. Moore

B. W. [Signature]

INVENTOR

William L. Beall
By Whitaker & Perost Attorneys

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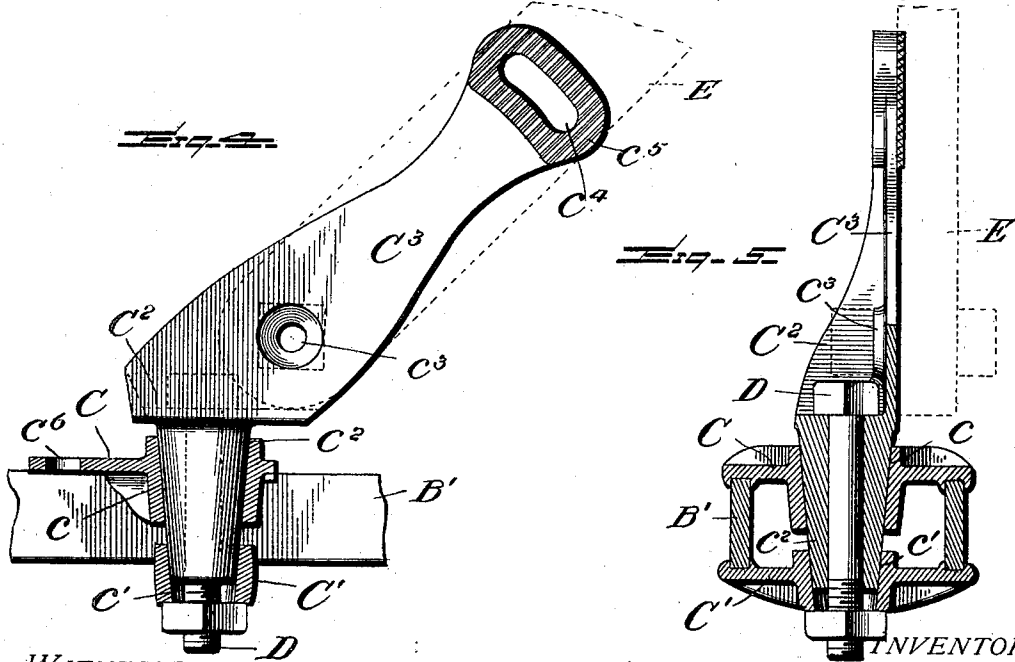
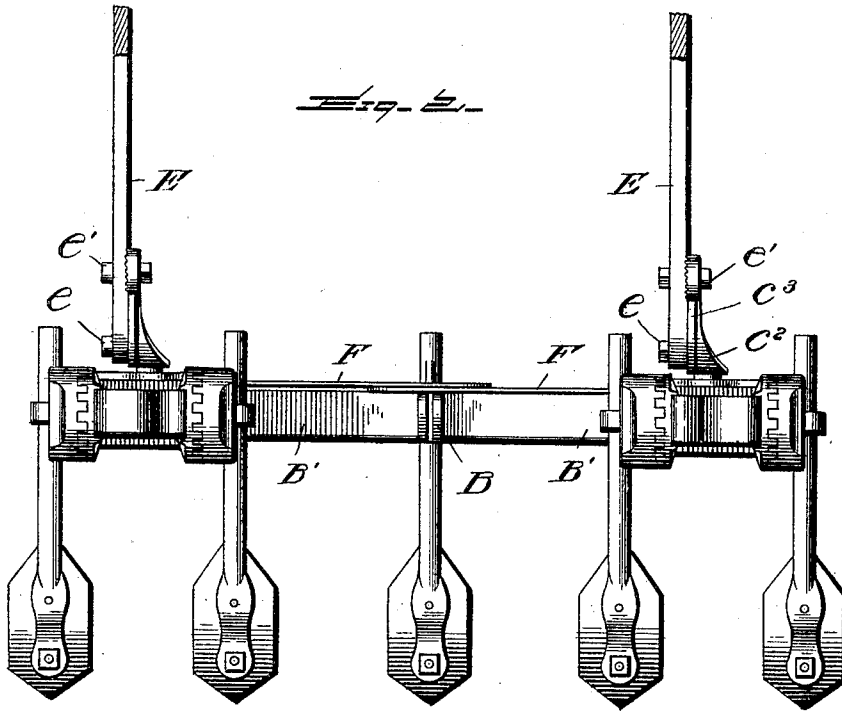
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WITNESSES:

J. K. Moore
Be. D. Smith

INVENTOR
William L. Beall
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UNITED STATES PATENT OFFICE.

WILLIAM L. BEALL, OF ALBION, MICHIGAN.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 669,059, dated February 26, 1901.

Application filed November 30, 1900. Serial No. 38,213. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. BEALL, a citizen of the United States, residing at Albion, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in cultivators; and it consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention, and said invention is fully disclosed in the following description and claims.

Referring to the said drawings, Figure 1 is a top plan view of a cultivator embodying my invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a detail plan view of one of the cultivator-beams detached. Figs. 4 and 5 are detail sectional views of the devices for adjustably securing the handles to the beams.

In the drawings, A represents the draft-frame, which is preferably triangular in shape and comprises the draft-bars *a a* and transverse bar *a'*, suitably connected.

*a*² is a draft-hook secured to the forward ends of the draft-bars.

To the draft-frame are secured a center rigid beam B and two pivoted beams B' B'. Each of the pivoted beams is formed of a single flat bar bent into the form shown in Fig. 3 and having its ends bolted to a casting *b*, which is pivoted to the draft-frame at one side of the same. The beam is reinforced at intervals throughout its length to increase its strength without adding materially to its weight. In this instance each beam is reinforced adjacent to its forward end by a spacing-block *b'* and bolt *b*², passing through the bar and said block. Adjacent to its rear end the portions of the bar are somewhat widely separated and are reinforced by the devices for securing the handle thereto. These devices comprise a pair of clamping-plates C C', (see Figs. 4 and 5,) adapted to be placed above and below the beam and provided with lugs or grooves to engage the portions of the

beam to prevent the lateral movement of the portions of the bar. The upper plate C is provided with a circular tapering flanged aperture *c*, and the plate C' is provided with a similar tapering circular flanged aperture *c'*, conforming to the taper of the aperture *c*.

C² represents a casting provided with a pivot-stud *c*², shaped like the frustum of a cone and adapted to fit snugly in the apertures *c c'*, but not extending to the bottom of the lower flanged aperture *c'*. The conical pivot-stud is perforated longitudinally to receive a securing-bolt D, which passes down through it and is provided with a nut engaging the flange surrounding the lower aperture *c'*. By turning up this nut the conical stud *c*² will be drawn so tightly into the conical apertures of the plates as to hold it rigidly from turning, and at the same time the plates C C' will be firmly clamped upon the edges of the bar forming the beam B'.

The casting C² has an upwardly-extending arm C³, provided with an aperture *c*³ near its lower end and with a slot *c*⁴, concentric with said aperture *c*³, located adjacent to the upper end of said arm.

E represents one of the handles, which is pivotally connected to the casting C² by a bolt *e*, passing through the aperture *c*³, and by a bolt *e'*, passing through the handle and through the slot *c*⁴. The surface of the arm C³ around the slot *c*⁴ on the side adjacent to the handle E is preferably serrated or roughened, as indicated at *c*⁵, to assist in holding the handle rigidly in its adjusted positions with respect to said arm C³. It will be seen that by loosening the bolt *e'* the handle can be adjusted vertically within the limits of the slot *c*⁴ and secured in its adjusted positions. To adjust the handle laterally, it is only necessary to slightly loosen the nut on the bolt D, turn the handle to the desired position, and again turn up the nut.

The beams B' B' are provided with means for holding them in fixed relation to the central beam and each other when desired. In this instance each of the top clamping-plates C is provided with a perforated ear or portion *c*⁶, to which is pivoted an adjusting-bar F, provided with a longitudinal series of apertures *f*. The two bars F F can be secured to the central beam B by means of a bolt *f'*, and

by inserting the bolt *f'* in the desired apertures *f* of the adjusting-bars the lateral adjustment and retention of the beams *B' B'* are secured. The beams *B B' B'* are provided with teeth or shovels in any desired way or as indicated in the drawings, and the draft-frame is also preferably provided with a supporting wheel or roller *G*, as shown.

What I claim, and desire to secure by Letters Patent, is—

1. In a cultivator, the combination with the draft-frame, of a beam pivoted thereto, said beam being composed of a single bar, having its ends secured together at the forward end of the beam and the portions of the bar at the rear end of the beam separated a considerable distance, a pair of clamping-plates engaging the separated portions of the beam, one of said plates having a conical aperture therein, a handle provided with a conical projection engaging said aperture, and having a threaded portion extending through the other plate and provided with a nut, substantially as described.

2. In a cultivator, the combination with the draft-frame, of a beam pivoted thereto, said beam comprising a single bar having its ends connected at the forward end of the beam and having its rear portions separated, a pair of clamping-plates engaging the separated portions of said beam, each provided with a conical aperture, a casting having a conical pivot-stud to tightly engage the apertures in said plates, means for securing said conical stud in said plates and for clamping said plates upon the beam, a handle pivotally secured to said casting and means for adjusting the said handle with respect to said casting, substantially as described.

3. In a cultivator, the combination with a beam provided with a conical aperture, of a handle provided with a conical pivot-stud for engaging said aperture in the beam and means for securing said stud in said aperture, substantially as described.

4. In a cultivator, the combination with a beam provided with a conical aperture, of a casting provided with a conical pivot-stud adapted to fit said aperture, a handle adjustably secured to said casting and means for securing said stud rigidly in said aperture, substantially as described.

5. In a cultivator, the combination with the beam, of clamping-plates engaging the beam, one of said plates being provided with a conical aperture, a casting provided with a conical pivot-stud adapted to fit said conical aperture and having a threaded portion extending through the other clamping-plate and provided with a nut, and a handle secured to said casting, substantially as described.

6. In a cultivator, the combination with the beam, of clamping-plates engaging opposite sides of the beam and provided with apertures, a casting provided with a conical pivot-stud engaging said apertures, a bolt passing through said stud and said plates and adapted to clamp said plates upon the beam and said stud rigidly in said plates and a handle secured to said casting, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM L. BEALL.

Witnesses:

FRED T. LAWLER,
W. D. BALL.